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Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

In the Matter of

Replacement of Part 90 by Part 88  
to Revise the Private Land Mobile  
Radio Services and Modify the  
Policies Governing Them

and

PR Docket No. 92-235

Examination of Exclusivity and  
Frequency Assignment Policies  
of the Private Land Mobile Radio  
Services

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To: The Commission

**REPLY**

Securicor Radiocom Limited and Linear Modulation  
Technology Limited (collectively referred to as "Securicor"), by  
counsel and pursuant to Section 1.429 of the FCC's Rules, 47  
C.F.R. §1.429, hereby reply to the Oppositions and Comments filed  
with respect to the Petition For Reconsideration submitted by  
Securicor on August 18, 1995 in the above-captioned proceeding.

In its Petition, Securicor requested that the FCC  
reconsider its Report and Order and Further Notice of Proposed  
Rulemaking, FCC 95-255 (June 23, 1995)<sup>1</sup> ("R&O") in this  
proceeding and adopt a 5 kHz channelization plan for the 150-174  
MHz band (the "VHF Band") and the 421-430, 450-470 and 470-512  
MHz Bands (the "UHF Bands"). Securicor demonstrated that use of

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<sup>1</sup>Replacement of Part 90 by Part 88 to Revise the Private  
Land Mobile Radio Services and Modify the Policies Governing  
Them, 60 Fed. Reg. 37152 (July 19, 1995).

a 5 kHz plan would substantially enhance the capacity of these Bands over that enabled by the 7.5/6.25 kHz channel spacings adopted in the R&O and enable a smooth migration to the use of advanced technologies in the refarmed PLMR bands. Securicor supplied as support a study conducted by Hatfield Associates, Inc. ("Hatfield") entitled "The Economic Impact of Refarming," which concluded that the R&O's decision to channelize the VHF and UHF Bands with less than the current state-of-the-art in technology will cost up to \$7.6 Billion in Federal revenues foregone, will result in up to \$2.9 Billion in lost infrastructure investment, and will result in 8,800 service jobs and 26,500 manufacturing jobs (person-years) lost.

SEA, Inc. ("SEA") in its Comments on the Petitions For Reconsideration submitted in this proceeding indicates its belief that "Securicor and E.F. Johnson [which requested adoption of a 5 kHz channelization plan for the VHF Band]... have presented what SEA considers to be persuasive and compelling arguments in favor of the use of a 5 kHz narrowband channel plan for the refarmed plans."<sup>2</sup> NTT similarly states that it "agrees with the Petitions For Reconsideration submitted by Midland International Corporation and Securicor ... that seek a transition to a 5 kHz channelization plan, rather than the 6.25 kHz plan adopted in the

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<sup>2</sup>Opposition of SEA, Inc. to Petition For Reconsideration, PR Docket 92-235 (September 21, 1995) at 2.

R&O."<sup>3</sup>

In its Report and Order allocating the 220-222 MHz band for use by 5 kHz narrowband systems in the PLMR services, the FCC expressed its intent that this allocation serve as the test bed for the introduction of very narrowband technology in other bands.<sup>4</sup> The support now expressed in this Docket for the use of 5 kHz channelization by five major developers and manufacturers of 5 kHz technologies vividly depicts the benefits that the FCC's leadership in the allocation of the 220 MHz band to narrowband technologies has brought to the public. Many new products and services are emerging from the 220 MHz allocation and are ready for application in other PLMR bands, as the Commission hoped. These highly-spectrally efficient products are being provided by both incumbent equipment manufacturers and new market entrants.

Only two parties opposed Securicor's request that the FCC reconsider the 7.5 kHz/6.25 kHz channel spacings adopted in the R&O. In this respect, the Association of Public-Safety Communications Officials, Inc. ("APCO") contends that "[t]o require 5 kHz spacing ... would undermine implementation of readily available and proven 12.5 kHz technology that provides immediate spectrum relief, vital interoperability, and graceful

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<sup>3</sup>Comments of Nippon Telegraph and Telephone Company ("NTT") on Petitions For Reconsideration and Clarification, PR Docket 92-235 (September 21, 1995) at 5.

<sup>4</sup>In the Matter of Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, 6 FCC Rcd 2356, 2358 (1991).

migration."<sup>5</sup> UTC claims that the manufacturers of 5 kHz equipment "have raised no substantive arguments."<sup>6</sup> Both APCO and UTC claim, in addition, that because the band plans adopted by the R&O will not preclude<sup>7</sup> the use of 5 kHz equipment in the refarmed bands, no party is prejudiced by the FCC's decision.

At the outset, neither APCO nor UTC (nor any other party) has replied to the core rationale of Securicor's reconsideration request, i.e., that the R&O's band plans compromise enormous efficiencies that otherwise would be available to users from 5 kHz band plans and result in significant lost economies. APCO's cursory and unexplained criticism of a 5 kHz band plan as "undermining" interoperability and "public safety users planning to convert to Project 25 equipment" is simply misplaced.<sup>8</sup> Securicor, indeed, demonstrated in its Petition (at 15-30) that both 6.25 kHz equipment (contrary to UTC's claim) and 12.5 kHz equipment (contrary to APCO's claim) could be flexibly accommodated by 5 kHz band plans. And, Securicor demonstrated that the 5 kHz band plans would attain an overall greater level of spectrum efficiency than that provided by 7.5/6.25 kHz channel spacings and would spur equipment

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<sup>5</sup>APCO Opposition and Comments in Response to Petitions For Reconsideration, PR Docket 92-235 (September 21, 1995) at 3.

<sup>6</sup>Consolidated Comments of UTC, The Telecommunications Association ("UTC") on Petitions For Reconsideration, PR Docket 92-235 (September 21, 1995) at 2.

<sup>7</sup>UTC Comments at 2;APCO Comments at 2.

<sup>8</sup>APCO Comments at 3.

manufacturers to invest in developing new and even more spectrally-efficient products.

Securicor appreciates the need for the public safety community to provide for interoperability as stated by APCO (Comments at 3). Securicor, like other manufacturers, is committed to working with the public safety community to attain this common goal and has participated in the on-going efforts of the Public Safety Wireless Advisory Committee. We, of course, strongly believe that 5 kHz technology will promote the interoperability of public safety communications by enhancing the overall channel capacity available to public safety entities to communicate and by providing an incentive to all manufacturers to continue develop even more spectrally-efficient technology.

Securicor recognizes that the efforts of the PSWAC to develop interoperability ultimately may identify a requirement for the allocation of additional spectrum to public safety usage. That spectrum, of course, likely will not be directly governed by the rules adopted here. In any event, the public safety community will strengthen its case for an additional spectrum allocation by embracing the use of the most spectrally-efficient technologies within existing PLMR allocations. This indeed was recognized at the most recent Subcommittee meetings of the PSWAC on September 28 and 29, APCO's casual dismissal of the "few more channels"<sup>9</sup> that may be made available through 5 kHz

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<sup>9</sup>APCO Opposition at 3.

channelization notwithstanding.

The Hatfield Study's findings regarding the magnitude of the lost efficiencies resulting from the 7.5/6.25 kHz channel spacings have gone unchallenged. Notably, despite UTC's contention that no new evidence or arguments not considered by the Commission prior to adoption of the R&O have been presented, the Hatfield Study applies, among other things, the results of the FCC narrowband PCS and IVDS auctions (as suggested by the FCC in its Further Notice of Proposed Rulemaking (at para. 138) in this Docket to analyze the impact of the R&O's band plans.

In addition, as Securicor noted in its Petition (at 32-34), the R&O, in fact, is based upon a stale record that fails to address adequately the implementation of auction authority, the deployment of 5 kHz technologies in the 220-222 MHz band and the continuing evolution in spectrally-efficient technology since the close of the Comment cycle on the NPRM two years prior to adoption of the R&O. Yet, these matters are precisely those that are the most relevant to a proper resolution of the issues concerning spectrum efficiency confronting the FCC in this Docket, particularly because the Commission's decision here will likely govern the use of the PLMR bands for the next two to three decades. The inadequacies in the record in this Docket, in short, undermine the bases for the Commission's conclusions in the R&O.

The claims by UTC and APCO that no prejudice arises from the R&O's band plans because 5 kHz technologies will not be precluded from the refarmed bands serve in fact to highlight the flaws underlying the R&O. The primary goal of this Docket from its inception has been to enhance the efficiency of usage of the PLMR bands and to promote the deployment of advanced spectrally-efficient technologies in those bands. Securicor respectfully believes that these goals, together with the mandates of the Communications Act, dictates that the Commission should promote the deployment of state-of-the-art technology, and not merely not preclude its use as urged by APCO and UTC.

As Securicor demonstrated in its Petition (at 10-14) the R&O's band plans are not neutral or non-prejudicial in their effect because they deprive the most spectrally-efficient technologies now available of their most critical competitive advantage, i.e., their spectrum efficiency. However, in Securicor's view, the parties suffering the most prejudice as a result of the R&O's band plans will be the users of the PLMR bands who will encounter less band capacity and degraded service.

Finally, UTC's suggestion (Comments at 3) that the requests of Securicor and others for 5 kHz band plans in effect may be an "abstract exercise in what might be technologically possible" is wholly unfounded. Securicor, like other parties, has devoted millions of dollars in investment to the development and deployment of its Linear Modulation, or "LM," technology. This has most certainly not been an abstract exercise for us.

Rather, we believe that the development of spectrally-efficient technologies has now progressed to the stage where revolutionary alternatives, like LM, with quantum gains in efficiencies are available. We accept that the introduction of these technologies in competition with entrenched interests, and long-vested technologies (like FM), will not be a quick or easy process. But, we invite and ask both the FCC and the user community to fairly assess these issues based upon the actual performance of these technologies in serving real users in the marketplace. The 220-222 MHz band is increasingly populated by many such users. We believe that with these users, and with the efforts of Securicor and others to work with the industry, it will become clear to the PLMR user community that the use of 5 kHz technologies provides an attractive and viable communications alternative that will enhance their system options and spur competition between manufacturers.

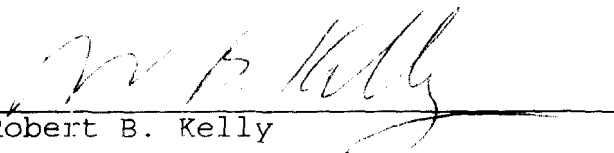


For these reasons, Securicor respectfully urges the FCC to reconsider the R&O and adopt the modifications to its Rules requested in Securicor's Petition For Reconsideration in this Docket.

Respectfully submitted,

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October 4, 1995

**CERTIFICATE OF SERVICE**

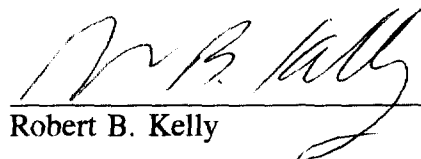
I, Robert B. Kelly hereby certify that a copy of the foregoing Reply of Securicor Radiocom, Ltd. and Linear Modulation Technology Limited was this 4th day of October, 1995, served by United States mail, first class postage prepaid, on the following:

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